

Amendments to the Specification:

Please rewrite the paragraph on page 6, line 21 to page 7, line 6 as follows:

~~In order to solve the problem, a~~ A manual input device according to the present invention ~~comprises the following components: contains~~ an actuator laterally ~~swingably~~ movably fitted to a frame; a manual control knob fitted to a driving shaft of the actuator ~~and integrated with the actuator so as to be swingably manipulated~~; a first position sensor which detects a direction and an amount of lateral movement of the actuator ~~detected at multiple locations along the same direction~~; a second position sensor which detects a direction and an amount of rotation of the driving shaft of the actuator; and a controller which inputs positional signals outputted from the first and second position sensors to control the actuator and applies an external force to the manual control knob according to the way the knob is manipulated.

Please rewrite the paragraph on page 7, line 11 to page 8, line 16 as follows:

In this constitution, the actuator is swingably laterally movably fitted to the frame and the direction and amount of lateral swingable movement of the actuator are detected by the first position sensor and the direction and amount of rotation of the driving shaft of the actuator are detected by the second position sensor so that the car-mounted electronic apparatus whose function is to be controlled can be selected by changing the direction of lateral swingable movement of the actuator and the function of the car-mounted electronic apparatus thus selected can be adjusted according to the amount of rotation of the driving shaft and therefore the selection and functional adjustment of the desired car-mounted electronic apparatus can be carried out using a single manual control knob. Furthermore, the manual control knob is fitted to the driving shaft of the actuator and an external force which depends on the manipulation of the manual control knob is applied to the manual control knob, so it is possible to give the user a tactile sensation to notify him/her of how the manual control knob has been manipulated as he/she touches it without seeing it; in short, the user can know with a tactile sensation whether or not the manual control knob is being manipulated in the

desired direction by the desired amount at the desired speed. This prevents erroneous manipulation of the manual control knob, ensuring high maneuverability of the manual control knob. Also, in this constitution, since the manual control knob is fitted to the driving shaft of the actuator, a power transmission mechanism to connect the manual control knob and the driving shaft is not needed and thus the manual control knob can be compact and light. Still more, because only one actuator is used, it is also easy to reduce the size and weight of the manual input device.

Please rewrite the paragraph on page 16, lines 18-23 as follows:

The stick controller 29 outputs a positional signal which depends on the direction and amount of lateral-swingable movement of the driving shaft 14a. The computer (not shown in the figures) picks up a positional signal from the encoder 25 and a positional signal from the stick controller 29 to use them to control the actuator.

Please rewrite the paragraph on page 17, lines 5-15 as follows:

In this constitution, when the user manipulates the manual control knob 3 in the direction parallel to the guide plate 28, the force of the manipulation is transmitted through the actuator 14 to the bracket 16 and thus a slip occurs between the receiving part 13b of the actuator holder 13 and the sliding part 16c of the bracket 16, resulting in a lateral-swingable movement of the actuator 14. Since the driving shaft 14a of the actuator 14 is passed through the radial guide groove 28a in the guide plate 28, the actuator 14 is moved only in one of the directions from the center position P_1 of the guide groove 28a to end points P_2 through P_9 .

Please rewrite the paragraph on page 17, line 16 to page 18, line 3 as follows:

As the actuator 14 is moved laterally-swingably in this way, the driving shaft 14a is also moved laterally-swingably accordingly and its lateral-swingable movement is transmitted to the driving shaft 29a of the stick controller 29 through the connecting bar 30 and a positional signal which depends on the direction and amount of swingable lateral-movement of the driving shaft 29a is outputted from the stick controller 29. This positional signal is picked up by the computer (not shown); thus the desired electric

apparatus is selected by means of the computer. As the manipulation force applied to the manual control knob 3 is then removed, the actuator 14 is automatically reset to its upright position due to the elasticity of the first spring member 17 set between the frame 12 and bracket 16.

Please rewrite the paragraph on page 23, line 2 to page 24, line 19 as follows:

As the user presses one of the pushbutton switches 4a through 4f and 5a through 5c, the pressed switch generates a switch signal and the electric apparatus corresponding to the switch signal is chosen (step S1). The positional signal detector 46 picks up the switch signal from the pressed pushbutton switch and indicates on the display D which electric apparatus has been chosen (step S2). Then, when the user laterally swingably moves the manual control knob 3 (step S3), the stick controller 29 outputs a signal depending on the amount and direction of lateral-swingable movement of the manual control knob 3 (step S4). The collator 42 checks the output signal from the stick controller 29 against the reference for collation and confirms the position of the manual control knob 3 as a result of lateral-swingable movement (step S5). The positional signal detector 46 picks up the output signal from the stick controller 29 and selects the electric apparatus function which depends on the position of the manual control knob 3 as a result of lateral-swingable movement and indicates, on the display D, the selected function and issues a pattern selection signal to the pattern selector 43 (step S6). The pattern selector 43 picks up the pattern selection signal and selects the pattern corresponding to that pattern selection signal, from among a plurality of patterns 45a, 45b, 45c and so on which have been stored in the ROM 44 (step S7). Then, as the user rotates the manual control knob 3 (step S8), the encoder 25 outputs a signal depending on the amount and direction of rotation of the manual control knob 3 (step S9). The collator 42 checks the output signal from the encoder 25 against the reference for collation and confirms the position of the manual control knob 3 as a result of rotation (step S10). The positional signal detector 46 picks up the output signal from the encoder 25 and indicates on the display D the state of functional adjustment (step S11). The collator 42 confirms (determines) the output of the actuator 14 from the pattern selected at step S7 and the rotated position of the manual control knob 3 as confirmed

at step S10 (step S12). Then, the output as confirmed at step S12 is sent from the driver 47 to drive the actuator 14 (step S13). As a result, the manual control knob 3 is driven by the actuator 14 and the external force from the actuator 14 is transmitted to the user through the manual control knob 3 (step S14). The abovementioned sequence from S1 to S14 is repeated successively.

Please rewrite the paragraph on page 30, line 4 to page 31, line 9 as follows:

According to the present invention, an actuator is laterally swingably movably fitted to a frame and the direction and amount of lateral-swingable movement of the actuator are detected by a first position sensor and the direction and amount of rotation of the driving shaft of the actuator are detected by a second position sensor so that the car-mounted electric apparatus whose function is to be controlled can be selected by changing the direction of lateral-swingable movement of the actuator and the function of the car-mounted electric apparatus thus selected can be adjusted according to the amount of rotation of the driving shaft and therefore the selection and functional adjustment of the desired car-mounted electric apparatus can be carried out using a single manual control knob. Furthermore, the manual control knob is fitted to the driving shaft of the actuator and an external force which depends on the manipulation of the manual control knob is applied to the manual control knob, so it is possible to give the user a tactile sensation to notify him/her of how the manual control knob has been manipulated as he/she touches it without seeing it; in short, the user can know with a tactile sensation whether or not the manual control knob is being manipulated in the desired direction by the desired amount at the desired speed. This prevents erroneous manipulation of the manual control knob, ensuring a high maneuverability of the manual control knob. Also, since the manual control knob is fitted to the driving shaft of the actuator, a power transmission mechanism to connect the manual control knob with the driving shaft is not needed and thus the manual control knob can be compact and light. Still more, because only one actuator is used, it is also easy to reduce the size and weight of the manual input device.

Please rewrite the abstract as follows:

A highly maneuverable car-mounted input device is provided which gives an adequate feel of resistance to a manual control knob according to the way the knob is manipulated. ~~The~~ In the manual input device, ~~comprises: an~~ a swingably movable actuator ~~laterally movably~~ is fitted to a frame; ~~a~~ A manual control knob is fitted to a driving shaft of the actuator; ~~and~~ is also swingably manipulatable. A stick controller ~~a~~ (first position sensor) ~~which~~ detects a direction and an amount of lateral movement of the actuator at multiple locations along the same direction; ~~a~~ second A different position sensor ~~which~~ detects a direction and an amount of rotation of the driving shaft of the actuator; ~~and~~ a A controller which inputs ~~accepts~~ positional signals outputted from the first and second position sensors to control the actuator and applies an external force to the manual control knob according to the way the knob is manipulated.